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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Implement the Commission's Procurement Incentive Framework and to Examine the Integration of Greenhouse Gas Emissions Standards into Procurement Policies.	Rulemaking 06-04-009 (Filed April 13, 2006)

THE CENTER FOR ENERGY AND ECONOMIC DEVELOPMENT'S APPLICATION FOR REHEARING OF DECISION 07-01-039, INTERIM OPINION ON PHASE 1 ISSUES: GREENHOUSE GAS EMISSIONS PERFORMANCE STANDARD

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Pursuant to Rule 16.1 of the Commission's Rules of Practice and Procedure, the Center for Energy and Economic Development (CEED) respectfully applies for rehearing of the Commission's Decision 07-01-039, Interim Opinion on Phase 1 Issues: Greenhouse Gas Emissions Performance Standard, dated January 25, 2007 (the "Decision").

I. INTRODUCTION

CEED is a non-profit organization formed by the nation's coal-producing companies, railroads, a number of electric utilities, equipment manufacturers, and related organizations for the purpose of educating the public, including public-sector decision-makers, about the benefits of affordable, reliable, and environmentally compatible coal-fueled electricity. CEED has several member-companies who are doing business in both California and in neighboring western states. CEED has participated in previous California Public Utilities Commission ("CPUC") Workshops regarding CPUC's proposed implementation of a Greenhouse Gas ("GHG") emissions cap, participated in the June 21-23 Workshop in this proceeding, and has participated in California Energy Commission ("CEC") public hearings on climate and clean coal technology issues, as well as CEC's proceedings to implement S.B. 1368. CEED also submitted detailed comments to Governor Schwarzenegger's Climate Action Team ("CAT").

As discussed below, the Decision prohibits a large portion of California's existing out-of-state power suppliers from competing in baseload California power markets, resulting in violation of the U.S. Constitution, including the Commerce Clause. The Decision also (1) sets an unrealistically low GHG emissions standard (even for Combined Cycle Gas Turbine ("CCGT") generation), (2) eliminates cost containment measures to protect ratepayers, (3) increases California's already high dependence on natural gas to supply its power needs, (4) eliminates or creates disincentives for continued development of cleaner coal-fueled electric generation, and (5) conflicts with federal policies. The Commission should reconsider the adoption of the Decision in light of these concerns, should revise the Decision, and should present additional analysis of the Decision's costs to ratepayers.

II.
ARGUMENT

A. THE COMMISSION'S SETTING OF A LOAD-BASED GHG EMISSIONS PERFORMANCE STANDARD VIOLATES THE COMMERCE CLAUSE OF THE U.S. CONSTITUTION

The Decision effectively precludes coal, oil, petroleum coke, waste fuel, and even older natural gas fueled generation from competition in California power markets. The proposal plainly "blocks the flow" of such generation at the California border, and in doing so, violates the Commerce Clause of the U.S. Constitution.

1. The Decision is an Impermissible Extraterritorial Regulation, and Violates the Commerce Clause *Per Se*.

The Decision's admitted goal is to force out-of-state generators to modify their facilities to comply with the Commission's EPS. Decision at 24 ("the EPS establishes a minimum level of acceptable GHG emissions performance for any baseload generation facility that represents a new long-term financial commitment to California"); 218 ("Moreover, generators may make changes to existing generation plants or construct new out-of-state generation plants, in order to meet the EPS."). The Decision will affect transactions wholly outside of California because an out-of-state generator must change its behavior to meet the standard. *See Healy v. Beer Institute*, 291 U.S. 324, 332 (1989) ("a state law that has the 'practical effect' of regulating commerce

occurring wholly outside that State's borders is invalid under the Commerce Clause."); *C & A Carbone, Inc. v. Town of Clarkstown*, 511 U.S. 383, 393 (1994) ("States and localities may not attach restrictions to exports or imports in order to control commerce in other states."). The Decision's infirmity, like similar regulations that have been invalidated, is that it ties the ability to do business in California to changed behavior *outside of California*. The Decision renders electric generation that is otherwise marketable – that is, behavior that is otherwise legal – unmarketable and illegal in California. The Decision plainly prohibits electric generators from selling their product in California unless the generator meets California's standards.

In *National Solid Wastes Mgmt. Association v. Meyer ("National Solid Waste")*, 63 F.3d 652 (7th Cir. 1995), the court held invalid a Wisconsin statute that forced out-of-state communities to adjust their behavior in order to do business in Wisconsin. In *National Solid Waste*, the court addressed a Wisconsin statute that conditioned the use of Wisconsin's landfills upon adoption of Wisconsin's recycling standards in a waste generator's home community. *Id*. at 658. In order to use Wisconsin's landfills, a waste generator's home community had to adjust its behavior to conform to Wisconsin's standards. The court held that such regulation "essentially controls the conduct of those engaged in commerce occurring wholly outside the State of Wisconsin and therefore directly regulates interstate commerce." *Id*.

Like the invalid statute in *National Solid Waste*, the Decision forces an out-of-state generator to meet California's standard if it desires to do business in California. The Decision admits that "electricity generated from high-GHG emitters can still be sold to California LSEs" *if* California's standard is met: "coal-fired and other plants that use technology that reduces GHG emissions could meet the EPS." Decision at 206. Earlier, Decision 06-02-032 articulated the same requirement: "non-California generators . . . must adjust their behavior" to comply with CPUC's GHG cap. Decision 06-02-032 at 23. As Wisconsin improperly required in *National Solid Waste*, California requires an out-of-state generator to adjust its behavior – by installing expensive technology that reduces GHG emissions – for the privilege of selling its product in California. An electric generator that meets the applicable emissions standards in its own state, but cannot meet California's standard, must adjust its behavior or forego business in California.

Such a requirement is impermissible as an extraterritorial regulation. *See Cotto Waxo Co. v. Williams*, 46 F.3d 790, 794 (8th Cir. 1995) (a statute has an impermissible extraterritorial reach when it "necessarily requires out-of-state commerce to be conducted according to in-state terms."); *Old Bridge Chems., Inc. v. New Jersey Dep't of Envtl. Protection*, 965 F.2d 1287, 1293 (3d Cir.) ("The Supreme Court has invalidated state statutes where a state has 'projected' its legislation into other states and directly regulated commerce therein, thereby either forcing individuals to abandon commerce in other states or forcing other states to alter their regulations to conform with the conflicting legislation."); *Great Atl. & Pac. Tea v. Cottrell,* 424 U.s. 366, 380 (1976) ("Mississippi is not privileged under the Commerce Clause to force its own judgments as to an adequate level of milk sanitation on Louisiana at the pain of an absolute ban on the interstate flow of commerce in milk.").

The pre-adoption announcement of the Decision has already had such extraterritorial effects. As one example, Sempra Energy has halted (or downsized) the development of its Granite Fox power plant near Gerlach, Nevada. As stated by a Sempra spokesperson, California's new regulations forbidding the importation of coal-generated power is the "biggest reason for changing the plant design."[1]

2. The Decision Will Preclude Out-of-State Suppliers from Competing in California's Markets.

California is currently the largest power importing state in the nation.[2] With its mix of mostly higher cost generating resources, few in-state power plants (mostly nuclear and co-generator facilities) operate at or above the Decision's 60 percent baseload capacity factor. EVA Technical Evaluation at 11. California has turned to much cheaper power imports to supply a

[1] Susan Voyles, *Sempra Energy Halts Gerlach Project Study*, Reno Gazette-Journal, March 8, 2006, *available at* http://news.rgj.com/apps/pbcs.dll/article?AID=/20060308/NEWS10/603080363/1002; *see also* Shayla Ashmore, *Granite Fox Power Plant May Not Happen*, Lassen County Times, March 14, 2006, *available at* http://www.lassennews.com/News_Story.edi?sid=3184.

[2] In 2005, the state reported retail sales of 254 TWh versus in-state generation of only 196 GWh (Source: DOE Electric Power Monthly March 2006.

large portion of its baseload power needs.[3] Because the 60 percent capacity factor exempts the majority of California's in-state generators from the EPS, the reality of California's energy market dictates that the Decision will primarily preclude out-of-state suppliers from competing in California markets.

> [I]mport power suppliers would need to demonstrate compliance with the proposed EPS to be eligible to compete for future baseload California power contracts. The proposed eligibility criterion would exclude a large portion of the existing import power suppliers from being able to compete for future California baseload power contracts. First, it would prohibit all coal-fired powerplants because of coal's much higher carbon content and lower energy efficiency (than combined cycle). Second, it would also exclude all natural gas and oil fired steam generating units (higher carbon content, lower efficiency) from competition. Such exclusions would significantly inhibit all future inter-state power trading . . . .

EVA Technical Evaluation at 12.

Currently, no cost-effective technology exists to allow CO_2 capture from flue gas streams and to store or sell the captured product. On the contrary, current CO_2 capture and sequestration technology options are both highly energy intensive and too expensive to be immediately commercially implemented in order to satisfy the proposed EPS.

> There are only four powerplants in the U.S. that capture a small portion of CO_2 from their flue gas streams. . . . These facilities were designed to treat less than 15 percent of their flue gas, and these facilities consume large quantities of energy in the process. Based upon their current performance, EVA calculates that to treat 100 percent of the flue gas would require roughly 75 percent of the plant's total output energy. However, to capture only the amount of CO_2 needed to meet a gas combined cycle emission rate (per MWh unit output basis) would consume roughly 63 percent of the plant output energy. Cost to capture and compress CO_2 would increase the production cost of coal-based electricity using conventional PC and CFB technologies by 184 percent. To treat the coal-fired generation currently coming-in to California alone

[3] California ISO Summer 2006 forecast (May 2006).

> would cost more than $5 billion/year. This would be far greater than the undocumented and arbitrary Climate Action Team (CAT) $117 million estimate. Such costs would make the higher carbon containing fuel alternatives far more costly than nuclear power and gas combined cycle alternatives that do not incur the carbon penalty.

EVA Technical Evaluation[4] at 8, 10 (footnotes omitted).

Some utilities have proposed the development of "carbon capture ready" IGCC facilities[5]. *See id*. at 10. The U.S. Department of Energy ("DOE") hopes to improve the energy efficiency and performance of carbon capture and sequestration technologies for coal-based alternatives, such as those technologies proposed in DOE's FutureGen project. *See id*. at 11. But, while such technologies are promising, their CO_2 removal abilities are currently modest, and extensive additional research must be done before such technologies are commercially feasible. *Id*. Because no technology currently exists to allow fossil-fueled generation to meet the proposed GHG emissions standard, the Decision blocks such generation from entering California.

The U.S. Supreme Court has stated that "where simple economic protectionism is effected by state legislation, a virtually *per se* rule of invalidity has been erected. The clearest example of such legislation is a law that overtly blocks the flow of interstate commerce at a State's borders." *City of Philadelphia v. New Jersey*, 437 U.S. 617, 624 (1978) (internal citations omitted) (state may not ban importation of solid waste while allowing disposal of in-state waste). The U.S. Supreme Court finds it equally clear that electric power raises interstate commerce concerns: "it is difficult to conceive of a more basic element of interstate commerce than electric energy, a product used in virtually every home and commercial or manufacturing facility."[6] "A state cannot block imports from other states, nor exports from within its

[4] The EVA Technical Evaluation was submitted as Attachment 1 to CEED's Comments on the Commission's Draft Workshop Report (filed September 8, 2006).

[5] For example, Xcel Energy's Pawnee facility. Such facilities seek to remove CO_2 from syngas before combustion for a far lower price than the flue gas capture approaches currently available.

[6] *Federal Energy Regulatory Comm'n v. Mississippi*, 456 U.S. 742, 757 (1982).

boundaries, without offending the Constitution."[7] CPUC's EPS will necessarily limit the amount of coal-fueled electricity imported into California, and accordingly, the EPS discriminates against interstate commerce.[8] As Decision 06-02-032, Opinion on Procurement Incentives Framework, dated Feb. 16, 2006 itself concedes, "non-California generators . . . must adjust their behavior" to comply with CPUC's GHG cap. Decision 06-02-032 at 23.

In *Pike v. Bruce Church*, 397 U.S. 137 (1970), the Supreme Court articulated the balancing test used to determine whether state laws and regulations are valid under the Commerce Clause:

> Where the statute regulates evenhandedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits…. If a legitimate local purpose is found, then the question becomes one of degree. And the extent of the burden that will be tolerated will of course depend on the nature of the local interest involved, and on whether it could be promoted as well with a lesser impact on interstate activities.

Id. at 142 (internal citations omitted).

Various U.S. Supreme Court decisions have struck down regulatory enactments that required particular economic activity to be performed within the jurisdiction.[9] The discrimination in each of these cases was based on geographic origin. In each case, the regulating jurisdiction (state, county, or city) drew a line around itself and treated those inside

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[7] *City of Philadelphia v. New Jersey*, *supra*, 437 U.S. at 620.

[8] Yvonne Gross, "Kyoto, Congress, or Bust: The Constitutional Invalidity of State CO2 Cap-and-Trade Programs," manuscript at 19, Thomas Jefferson Law Review, Vol. 28, No. 205, 2005 Available at SSRN: http://ssrn.com/abstract=883687.

[9] *See*, *e.g.*, *Dean Milk Co. v. Madison*, 340 U.S. 349 (1951) (unconstitutional for city to require milk to be pasteurized within five miles of the city); *Fort Gratiot Sanitary Landfill, Inc. v. Michigan Dept. of Natural Resources*, 504 U.S. 353 (1992) (unconstitutional for county to prevent a landfill owner from accepting for disposal solid waste produced outside of the county); *Minnesota v. Barber*, 136 U.S. 313 (1890) (unconstitutional for state to require meat sold within the state to be examined by state inspector); *Foster- Fountain Packing Co. v. Haydel*, 278 U.S. 1 (1928) (unconstitutional for state to require that shrimp heads and hulls must be removed before shrimp can be removed from the state); *South-Central Timber Development, Inc. v. Wunnicke*, 467 U.S. 82 (1984) (unconstitutional for state to require all timber to be processed within the state prior to export).

the line more favorably than those outside the line. These arrangements are protectionist, either in purpose or practical effect, and amount to virtually *per se* discrimination.

Under the proposed EPS, the ability of out-of-state coal-fueled generation plants to export their electricity into California will be severely limited, if not foreclosed altogether. The limitation of CO_2 emissions described by CPUC effectively precludes in-state utilities and other load-serving entities from the purchase and importation of coal-fueled generation. The EPS, and the cap to follow, discriminate against coal-fueled energy in interstate commerce, and accordingly, offend the Commerce Clause of the U.S. Constitution.

In example, in *United States v. Wrightwood Dairy Co.*, 315 U.S. 110 (1942), the Supreme Court held that, because milk produced and sold wholly within a state competes with and affects the price of milk shipped in from out-of-state, the U.S. Department of Agriculture properly regulates the pricing of milk produced and sold wholly within a state. Like the milk at issue in *Wrightwood Dairy*, electricity generated in other states competes with electricity generated in California. Limiting California's ability to include coal-fueled generation in energy procurement discriminates against the interstate trade of electric generation, and in doing so, depresses the price of electricity in the exporting state by reducing the level of demand it might otherwise satisfy, thereby imposing a burden on out-of-state generators.[10]

Moreover, by closing off the California market, CPUC's announced EPS and GHG cap places heightened financial burdens on the construction of new coal-fueled power plants in neighboring states. The initial capital required to construct a power plant is typically secured with pre-construction contracts for the output of the unit. If California is effectively closed to coal-fueled power due to the EPS, reduced potential market breadth makes securing financing for construction of new coal-fueled power plants in all Western states more difficult. In obtaining financing for new construction, California-based electric generators have a significant competitive advantage over out-of-state, independent developers of coal-fueled generation facilities, and consequently, the CPUC GHG regulatory scheme offends the Commerce Clause.[11]

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[10] Gross, *supra* note 12, manuscript at 20.

[11] *Id*., manuscript at 20-21 (citing Thomas C. Hayes, Bottom-Fishing in the Gas Patch, N.Y. Times, May 19, 1991, at 3 (noting that "without ironclad guarantees for fifteen years or more of supply, lenders have refused to finance the

(footnote continued on next page)

B. THE DECISION FAILS TO MEET SEVERAL STATED DESIGN GOALS OF THE PHASE I EPS RULEMAKING.

Following the Workshop on the Phase I EPS design held June 21-23, 2006, the Commission developed a list of consensus design goals for the EPS process. The list of design goals for the proposed EPS include (1) minimizing costs to ratepayers; (2) addressing reliability concerns; and (3) encouraging (as well as not hindering) advanced technology development. *See* Final Report at 43; *see also* Draft Report at 68. S.B. 1368, at § 8341(d)(6), also mandates that the Commission, "in consultation with the Independent System Operator shall consider the effects of the standard on system reliability and overall costs to electricity customers."

The Decision devotes three paragraphs of its 286 pages to "effects on reliability and overall costs to electric customers," but makes no mention of actual costs of the EPS. Instead, the Decision only restates the conclusion that the EPS will protect electricity customers from reliability problems and high compliance costs in the future, and states that "no showing has been made in this proceeding that new, EPS-compliant procurements will not be available at reasonable costs to ratepayers." Decision at 225; 263. The Decision does not contain any analysis or discussion of the reliability concerns raised by homogenizing California's energy supply to rely upon natural gas.[12] As CEED previously commented with respect to the Final Report, the Decision attempts to address reliability concerns by allowing reliability exemptions on a case-by-case basis, but misses the much larger policy issue created by eliminating most new resource options and forcing the state to become increasingly dependent upon natural gas. *CEED Opening Comments on Final Workshop Report,* October 18, 2006, p. 4 (citing EVA Technical Evaluation at 3-4).

(footnote continued from previous page)

construction of gas-fired power plants for utilities," and likewise, a long-term contract for the output of a power plant is usually required for financing of independent power producers and coal plants)).

[12] The EVA Technical Report was prepared in response to the Draft Workshop Report, and is equally applicable to the Final Report and Decision.

1. The Decision Eliminates Cost Containment Measures that Would Minimize the Costs of the EPS to California Ratepayers.

One of the design goals recognized by the Commission is to minimize costs of the EPS to California ratepayers. The California General Assembly set out the same goal in S.B. 1368. S.B. 1368 § (1)(d) ("Energy Action Plan II establishes a policy that the state will rely on clean and efficient fossil fuel fired generation and will 'encourage the development of cost-effective, highly-efficient, and environmentally-sound supply resources to provide reliability and consistency with the state's energy priorities.'"); *id*. at § (1)(g) ("It is vital . . . to reduce California's exposure to costs associated with future federal regulation of these emissions."); *id*. at § 8341(e)(7) ("In adopting and implementing the greenhouse gases emission performance standard, the Energy Commission, in consultation with the Independent System Operator, shall consider the effects of the standard on system reliability and overall costs to electricity customers.")

By eliminating all cost containment provisions from the EPS, and in failing to address the costs to ratepayers, the Decision neglects its obligation to protect ratepayers from the costs of the EPS. The California legislature and governor have expressed interest in controlling compliance costs to minimize impacts on the state economy in both S.B. 1368 and AB 32. S.B. 1368 specifically requires the Energy Commission to consider the ratepayer costs in its development and implementation of a GHG emission standard. *See* §§ 8341(d)(6), 8341(e)(7)).

Several methods exist to build cost controls into the proposed EPS, but the Decision rejects these methods. Such methods should be closely considered in order to comply with the stated design goals – and the statutory mandates – while minimizing the costs of the EPS to California ratepayers.

2. The Displacement of Coal-Fueled Electric Generation Will Harm California's Economy, and Will Disproportionately Affect Lower-Income California Families.

The higher electricity rates resulting from the Decision standard will have the same effect as a regressive tax. Higher energy prices disproportionately affect families living on lower and

fixed incomes.[13] Thus, everyone in society has a stake in keeping energy costs affordable. More money spent on electricity means less money is available for housing, food, education, and other necessities that improve quality of life. Therefore, it is an unwise and unjust policy to raise energy prices so that consumers use less.

CEED submitted several sets of comments and evidentiary materials in this rulemaking proceeding, including its Comments on the Draft Workshop Report and the documents submitted therewith (filed September 8, 2006). The Decision does not consider the disproportionate impact to lower-income California families.

a. *The Displacement of Coal-Fueled Electric Generation Will Negatively Impact California's Economic Output, Household Income, and Jobs.*

Adam Z. Rose, Ph.D. ("Rose"), and Dan Wei ("Wei")[14] conducted research to estimate the economic impacts of displacing coal-fueled electricity generation. *See* Rose & Wei Paper (Attachment 5 to CEED's September 8, 2006 Comments on the Draft Workshop Report); *see also* Summary of same (Attachment 4 to CEED's September 8, 2006 Comments on the Draft Workshop Report); Supporting Data (Attachment 6 to CEED's September 8, 2006 Comments on the Draft Workshop Report); and Balanced Energy Report (Attachment 7 to CEED's September 8, 2006 Comments on the Draft Workshop Report). Rose and Wei calculated that U.S. coal-fueled electric generation will contribute $1.05 trillion in gross economic output, $362 billion in annual household incomes, and 6.8 million jobs in 2015. *See* Rose & Wei Paper at 4. Based upon these calculations, Rose and Wei concluded that displacement of 33% of coal-fueled electric generation (nationwide) would result in a loss of $166 billion in gross economic output, a $64 billion reduction in annual household incomes, and 1.2 million job losses. *Id*. at 5. But the report further calculated the net economic losses of such displacement of coal-fueled electric

[13] In 2005, energy costs accounted for only five percent of the gross incomes of families with household incomes of greater than $50,000. In the same year, energy costs consumed 48 percent of the budgets of U.S. families with incomes of less than $10,000. *See* EVA Technical Evaluation at 16-18; Balanced Energy Report (Attachment 7 to CEED's September 8, 2006 Comments on the Draft Workshop Report) at 1-6.

[14] Rose was Professor of Energy, Environmental, and Regional Economics at the Pennsylvania State University. Wei was a Graduate Assistant at the same university.

generation in California alone. *See* Summary of Rose & Wei Paper at 8-9 (Attachment 4). A 33% displacement of coal-fueled electric generation would result in a $10 billion net loss in economic output, $4.1 billion in lost household income, and 65,300 lost jobs in California. A 66% displacement would cost California $22.9 billion in lost economic output, $9.3 billion in lost household income, and 148,300 lost jobs. These losses illustrate the interdependence of major segments of the economy, and show that the Decision's EPS cannot be judged in terms of expected environmental effects alone. The additional effects of the proposed EPS must be assessed by the Commission before implementing an EPS.

b. *Brenner Research: Higher-Cost Energy Results in Reduced Household Income, Increased Unemployment, and Premature Death*

M. Harvey Brenner, Ph.D.,[15] conducted research regarding the relationship between energy, the environment, and health. *See* Brenner Article (Attachment 3 to CEED's September 8, 2006 Comments on the Draft Workshop Report); *see also* Summary of same (Attachment 2 to CEED's September 8, 2006 Comments on the Draft Workshop Report). After applying his econometric model of public health to a hypothetical scenario in which higher-cost fuels displace U.S. coal to generate electricity (like the Decision will do for California), Dr. Brenner discovered that such displacement will result in staggering adverse impacts, including reduced household income, increased unemployment, and premature deaths. *See* Brenner Article at 30 (Table 1). Such premature deaths are directly attributable to "decreased household income and increased unemployment associated with a shift to higher cost energy supply options, absent any direct mitigation programs that effectively prevented or offset these effects." *Id*. at 32. By increasing the costs of goods and services such as electricity, and, in doing so, reducing disposable income, government regulation can inadvertently harm individuals' socioeconomic status and contribute to poor health and premature death. *Id*. at 28.

[15] Dr. Brenner is Professor Emeritus of Health and Policy Management at the Johns Hopkins University Bloomberg School of Public Health, Senior Professor of Epidemiology at the Berlin University of Technology, and Professor and Chairman of the Department of Social and Behavioral Sciences in the School of Public Health at the University of North Texas Health Science Center.

Dr. Brenner's caution to public policy makers applies directly to the Commission here: "Governmental programs intended to protect public health and the environment should take into account potential income and employment effects of required compliance measures." *Id*. In short,

> [t]he economic growth that continuously improves human life expectancy requires access to affordable energy. In this fundamental sense, any policy change that reduces growth or raises the level of unemployment should therefore be defined and addressed as a public health issue requiring an economic policy response that limits or offsets these results.

Id. at 33. Dr. Brenner's research cautions the Commission to recognize the costs and potential unintended consequences that the proposed EPS will have on employment, income, and public health.

3. The Decision Increases California's Dependence on Natural Gas to Supply Its Power Needs.

The Decision's 1,100 lb CO_2/MWh emission performance standard precludes all power plants that use oil, coal, petroleum coke, and most waste fuels from long-term contracts to supply baseload power to California investor-owned utilities. Any generation derived from higher carbon content fuels, such as petroleum coke, coal, waste fuels, and oil, face "impossible technology hurdles since such facilities must offset their higher fuel carbon content without any energy efficiency advantage (often a disadvantage)" when judged based upon the proposed CCGT standard. EVA Technical Evaluation at 6-7. No coal or other carbon chain fuel (including natural gas, in some instances) can meet the CO_2 performance limit of 1,100 lbs CO_2/MWh. *Id*. at 7.

4. The Decision Results in Greater Vulnerability to Natural Gas Market Reliability Risks.

Power plants that use oil, clean coal, petroleum coke, and most waste fuels are precluded from entering into long-term contracts to supply baseload power to California investor-owned utilities under the Decision. By limiting baseload generation competition in this way, the Decision leaves California with fewer and higher-cost baseload generation options. If coal, oil,

petroleum coke, waste fuel, older CCGT, and unspecified generation options are excluded from long-term baseload power contracts, utilities must depend upon additional new CCGT plants, nuclear units, and renewable resources to meet California's growing energy demand. If California is reluctant to support nuclear power, it is left with little diversity in its energy portfolio – only natural gas and renewable energy options.

The North American Electric Reliability Council ("NERC") 2006 Long-Term Reliability Assessment plainly recognizes this flaw in California's resource adequacy and diversity assessment, stating that:

> California is highly reliant on gas-fired generation and has very little alternate fuel capability for these plants. California is also highly reliant on natural gas imports so gas supply is of concern to area energy planners, including the California Energy Commission. The Commission's September 21, 2005 Energy Action Plan II Implementation Roadmap For Energy Policies identifies eight key actions to address natural gas supply, demand, and infrastructure.

NERC 2006 Long-Term Reliability Assessment, October 16, 2006, at 120, *available at* ftp://www.nerc.com/pub/sys/all_updl/docs/pubs/LTRA2006.pdf (citing the Energy Action Plan II report, *available at* http://www.energy.ca.gov/energy_action_plan/2005-09-21_EAP2_FINAL.PDF).

A portfolio of limited energy sources is inherently a high-risk portfolio, and the Decision creates unjustifiably high supply and market risks for California ratepayers. *Id*. Given the volatility of natural gas prices, as well as the higher cost of natural gas, the proposed EPS places California ratepayers in an inherently risky position. *See* Balanced Energy Report (Attachment 7 to CEED's September 8, 2006 Comments on the Draft Workshop Report) at 3-4 (Charts 1 and 2 – electricity fuel cost indices by energy source).

NERC's 2006 Long-Term Reliability Assessment Report analyzes the adequacy of electricity supply and transmission reliability in North America through 2015, and the report calls for actions to improve system reliability. NERC 2006 Long-Term Reliability Assessment

at 6-10. NERC expects demand for electricity to increase over the next ten years by nineteen percent in the U.S., but expects confirmed power capacity to increase by only six percent. *Id*. at 11-14. Accordingly, NERC projects that capacity margins will drop below minimum target levels in the western U.S. *Id*. In Western Electricity Coordinating Council ("WECC") territory specifically, "[d]ue to a slight decrease in existing generating capacity and a significant decrease in reported generation additions, capacity margins . . . are reported as declining throughout the ten-year assessment period." *Id*. at 19. NERC predicts summer electricity supply shortages, relative to study planning margins, as early as 2009, assuming no resource additions beyond those presently under active construction. *Id*. Such drops alert NERC to the increased potential for shortages in electricity due to fuel disruptions, particularly for natural gas: "The supply and delivery of gas to electric generators can be disrupted when electric generation demands for gas coincide with high gas demands for other customers. In some cases, even firm gas contracts for electric generation can be curtailed in favor of residential heating needs during extreme cold weather." *Id*. at 9. The Decision will shift California's energy portfolio even more to natural gas, and California places itself in a position of increased system reliability risk. Instead of increasing system capacity as NERC recommends, the Decision implements requirements that will serve to reduce available system capacity.

Further, heavy reliance upon renewable energy options is currently a high-risk and unrealistic option for California:

> First, it is unlikely that renewable energy can meet this large demand without a significant price impacts. Renewable power has been and continues to be far more expensive than conventional generation options.
>
> The California Public Utility Commission (CPUC) report entitled *Achieving a 33% Renewable Energy Target* (November 2005) failed to study the resource availability and cost impact of the combination of California expanded renewable demand with other western state demand triggered by their renewable portfolio standards. Four western states (Arizona, Colorado, New Mexico, Nevada) have also adopted renewable portfolio requirements totaling 20 TWh by 2020 that plan to draw upon these same renewable resources. Other western states are also considering

> adopting similar standards that would push demand above 140 TWh. How much renewable resources can be developed and at what cost?
>
> CPUC's analysis assumed that most of this increased renewable energy demand would be supplied by wind projects. To meet this demand, the CPUC report assumes that the wind capacity factors will increase from 37 percent today to 43 percent by 2017. However, according to EIA Form 906 data, only one California wind project and eight in the entire nation report such a high capacity factor. In fact, the average 2003 California capacity factor was less than 23%, so the CPUC projection may vastly over-estimate both current and future potential wind power contribution and significantly underestimate the wind production cost. A GHG performance standard would make wind a larger player in the energy market, a role wind technology does not appear ready to play.
>
> Secondly, wind can also contribute to system reliability issues. In a recent article in *Power Markets Week*, the California ISO provided data for the July 2006 energy crunch in California. During this critical period, wind power operated at less than 5 percent of its rated capacity at peak demand periods. This makes wind a highly unreliable source during critical high peak periods when power is needed the most.

EVA Technical Evaluation at 15-16.

5. The Decision Hinders Advanced Clean Coal Technology Development.

A stated design goal for the proposed EPS has been the encouragement of advanced technology development, *see* Draft Report at 68, but this goal is removed from the Final Report and is omitted from the Decision. The omission of this important goal contradicts the policy enacted in S.B. 1368 and the Energy Action Plan II. S.B. 1368 § 1(d) ("Energy Action Plan II establishes a policy that the state will . . . 'encourage the development of cost-effective, highly-efficient, and environmentally-sound supply resources . . . .'").

The Decision moves even farther away from the mandate of S.B. 1368 and Energy Action Plan II by completely eliminating the staff recommendation of a case-by-case research and development facility exemption. *See* Final Report at 45; Draft Report at 36; Decision at 23.

The Decision recognizes that no less than six parties in this proceeding (Carson Hydrogen Power Project, San Francisco Community Power, PG&E, PacifiCorp, SDG&E, and SoCalGas) support the recommended research and development exemption because it will "assist in the introduction and adoption of new technologies that can greatly reduce GHG emissions, thereby furthering the Commission's and the State's energy policies." Decision at 92. CEED agrees with PacifiCorp and SCE that, without a research and development exemption, the EPS will deter development and implementation of Integrated Gasification Combined Cycle ("IGCC") technology and will shift investment to increased reliance upon natural gas, rather than new technologies. *Id*.

Instead of allowing a research and development exemption, the Decision accounts for geological formation injection sequestration by stating that "we will determine EPS compliance for such powerplants based on reasonably projected net emissions over the life of the facility." Decision at 94, 240. Suppliers must file an application requesting a Commission finding of EPS-compliance. *Id*. The Decision's review process contributes toward uncertainty, and the administratively burdensome review process will more likely discourage and hinder advanced technology development.

As CEED stated in its previous comments, investment in advanced technology is less likely when an extensive review process must be conducted before it is known whether the technology will meet the EPS. CPUC's goal of encouraging advanced technology would be better achieved if some predefined R&D projects, such as carbon capture ready IGCC projects and ultra-supercritical pulverized coal units that provide potentially low CO_2 options, were automatically exempted from the EPS and not subject to an expensive or drawn out approval process. Projects such as the Xcel Pawnee (PRB-fired IGCC plant with carbon capture) and AEP Hempstead (PRB fired ultra-supercritical plant) projects should be encouraged. A case-by-case exemption discourages investment in advanced technologies due to the uncertainty of the review process. If certain advanced technologies were pre-approved by rule, the Commission would encourage investment in advanced technologies.

As Governor Schwarzenegger appropriately put it in a speech announcing a hydrogen power plant fueled by hydrogen generated from petroleum coke:

> I want to thank you for choosing California. This will be the first plant of its kind in the whole country and I think it is a perfect fit for our state. With our Strategic Growth Plan, a commitment to Air Quality, *and innovative projects* like this hydrogen plant, I know we can have clear skies, improve our quality of life and build a stronger, more vibrant economy for California.

Governor Schwarzenegger, Address at Carson, California Project Announcement (February 10, 2006) (quoted in Press Release, BP Global, *BP and Edison Mission Group Plan Major Hydrogen Power Project for California* (February 10, 2006) (*available at* http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7014858)) (emphasis added).

C. THE COMMISSION'S EFFORTS TO REGULATE THE PRODUCTION OF GHG CONFLICT WITH FEDERAL FOREIGN AND DOMESTIC POLICY REGARDING GLOBAL CLIMATE CHANGE AND WITH FEDERAL REGULATION.

The EPS adopted in the Decision conflicts with the federal government's foreign policy. When state law or regulation conflicts with federal law, state law is preempted and has no effect.[16] The U.S. Supreme Court has long held that federal foreign policy has a particularly strong preemptive effect on state action.[17] Moreover, a state statute or regulation may not interfere with an action the President "may choose to take in furtherance of a particular [foreign policy] option."[18] President Bush has clearly designated a foreign policy for the United States on global climate change.[19] First, the President has established that the United States must work

[16] *Maryland v. Louisiana*, 451 U.S. 725, 746 (1982).

[17] *American Insurance Ass'n v. Garamendi*, 539 U.S. 396 (2003); *Hines v. Davidowitz*, 312 U.S. 52 (1941).

[18] *Crosby v. National Foreign Trade Council*, 530 U.S. 363, 377 (2000).

[19] In 1998, the Clinton administration supported the Kyoto Protocol. In doing this, it committed the United States to a seven percent reduction in carbon dioxide and other greenhouse gas emission from 1990 emission levels, to be achieved between the years 2008 and 2012. However, President Clinton's commitment ran into unanimous opposition in the Senate. Norman Vig, "Presidential Leadership and the Environment," in Norman J. Vig and Michael E. Kraft (eds.), Environmental Policy: New Directions for the Twenty-First Century, pp. 114-115. The Senate's position was that the treaty placed an unfairly low burden on developing countries and too high a burden on developed countries. The Senate took the position that developing countries would need to share in the burden of reducing emissions. As a result of the Senate's clear position, the Clinton administration never submitted the Protocol for ratification. Three years later in 2001, the Bush administration withdrew the United States' support for the Kyoto Protocol, claiming that the treaty was fatally flawed. In Bush's rationale for his rejection of Kyoto, he

(footnote continued on next page)

with other nations to achieve a coordinated international response to global climate change. The President has identified "the process used to bring nations together to discuss our joint response to climate change [as] an important one."[20] Second, the President has articulated a federal policy of not mandating unilateral reductions in CO_2 emissions from United States sources because responsibility for committing to and implementing any binding emission controls to address global climate change must be shared by all nations, including developing nations, and Congress has endorsed the President's policy against requiring CO_2 emission reductions only from the United States and other developed countries. Congress has also enacted provisions in appropriations bills barring the Environmental Protection Agency from implementing the Kyoto Protocol.[21] The EPA announced that imposing unilateral GHG emission limitations would weaken the President's efforts to persuade key developing countries to reduce the GHG intensity of their economies.[22]

With respect to the issue of global warming, it is not within the prerogative of the Commission to set GHG control policy. Whether or not the Commission or the State of California agrees with the President of the United States, the chief executive of the United States has expressed the national policy regarding GHG issues within the context of the national interest in negotiating international treaties designed to elicit the cooperation of other countries.[23] The Commission's attempt to implement a statewide GHG control policy at this time is an intrusion upon and is at odds with the President's Foreign Policy Powers. The U.S. District Court for the Eastern District of California so held in a recent opinion, stating that a state

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(footnote continued from previous page)

stated that to implement the technologies needed to comply with Kyoto would cost the United States roughly 4.9 million jobs. Kelly Wallace, "Bush to Unveil Alternative Global Warming Plan," p. 1.

[20] Transcript, President Bush Discusses Global Climate Change (June 11, 2001), *available at* http://www.whitehouse.gov/news/releases/2001/06/20010611-2.html.

[21] See, *e.g.*, Pub. L. No. 106-377, Appendix A, 114 Stat. at 1441A-41 (Oct. 27, 2000) (for fiscal year 2001).

[22] 68 Fed. Reg. 52,922, 52,931 (September 8, 2003).

[23] *See* Letter from President Bush to Senators Hagel, Helms, Craig, and Roberts, *available at*: http://www.whitehouse.gov/news/releases/2001/03/20010314.html.

program that requires mandatory reductions in greenhouse gas emissions conflicts with United States foreign policy addressing climate change.[24]

The Decision dismisses this controlling law, stating that "[i]t is unclear how California, which is not proposing to sign any international agreement here, could be undermining such a [U.S. foreign] policy." Decision at 193. But the Decision's rationale is flawed because it ignores the mandate that a state statute or regulation may not interfere with an action the President "may choose to take in furtherance of a particular [foreign policy] option."[25] The Decision undermines the President's policy choices because the United States is no longer represented by "one voice" as the Constitution requires. Actions based upon the EPS, such as Governor Schwarzenegger's agreement with the United Kingdom, harms the President's ability to bargain with other nations, particularly, as the Decision dismisses, to require developing countries to participate. *See Garamendi*, 539 U.S. at 424 ("quite simply, if the [state] law is enforceable the President has less to offer and less economic and diplomatic leverage as a consequence.") (quoting *Crosby*, 530 U.S. at 377). The Decision also criticizes the authorities CEED cites (a letter and statements from the President and S. Res. 98, 105th Cong. (1997)). Decision at 193. However, the U.S. District Court for the Eastern District of California recently held that "[t]he Supreme Court cases do not suggest that the absence of a statute or an executive agreement is fatal to a foreign policy preemption claim. In fact, the Court's analysis suggests that such a claim is permissible."[26] The court continued, "so long as the President is empowered to act to benefit United States foreign policy interests, whether through express or implied congressional authorization or through his independent authority, a state statute that excessively interferes with an action 'he may choose to take' in furtherance of that interest may be preempted."[27]

Moreover, the Decision conflicts with federal domestic policy regarding climate change. Congress's approach has consistently been to provide incentives for technology development; to

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[24] *Central Valley Chrysler-Jeep, Inc. v. Witherspoon*, 456 F.Supp.2d 1160, 1175-83 (E.D. Cal. 2006).

[25] *Crosby,* 530 U.S. at 377.

[26] *Central Valley Chrysler-Jeep*, 456 F.Supp.2d at 1179.

[27] *Id*.

authorize research, study, and other non-regulatory programs; and to support the Executive Branch in working with other nations to achieve global emissions reductions. Congress has consistently rejected mandatory emissions reductions when enacting legislation addressing global climate change, and has instead opted to fund research, new technology, and global approaches to address climate change.[28]

Finally, the Decision purports to impose conditions and regulations on interstate power purchases, thereby conflicting with the Federal Power Act, and the exclusive jurisdiction of the Federal Energy Regulatory Commission in this area. The Federal Power Act provides FERC with exclusive jurisdiction over wholesale sales and transmission of electric energy interstate commerce. The Decision concludes that the EPS does not conflict with the Federal Power Act because, even though California electric utilities are still subject to PURPA's mandatory QF purchase obligation, *see* FERC Rulemaking, Docket No. RM06-10-000, Order No. 688, S.B. 1368 simply limits utilities from entering into long-term contracts rather than prohibiting contracts altogether. Decision at 95-99. The Commission's view is that "there is no provision [of PURPA] that requires that QFs be allowed to enter into long-term contracts," *id*. at 98, and that because "[u]tilities will simply be limited from entering into new, or renewal, long-term contracts with baseload QFs that do not meet the EPS, . . . electric utilities should be fully capable of complying with both federal and state law and regulation. *Id*. Even assuming, for the purpose of argument only, that the Decision's conclusion is technically correct, the Decision overlooks the implied conflict resulting from the barrier to entry of the wholesale market forced by the EPS. The Federal Power Act and FERC are meant to ease such barriers to participation in the wholesale market, and the EPS impliedly conflicts with this federal interest. The Commission risks the possibility that the policies it implements now could conflict with any national policies, foreign and domestic, that may be implemented in the future.

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[28] *See, e.g.,* Global Climate Protection Act of 1987, 15 U.S.C. § 2901, *et seq.* (the Act does not authorize or require the adoption of any regulatory or control measures); Energy Policy Act of 1992 (stating in legislative history that "more dramatic and possibly higher cost actions" should be examined or implemented "only in the context of concerted international action." H.R. Rep. No. 102-474, pt. I, at 152 (1992)); Energy Policy Act of 2005 (rejecting a mandatory cap-and-trade program, and instead opting to promote climate change research, technology, and sharing of such technologies with developing countries).

III.
CONCLUSION

CEED respectfully requests that the Commission grant its request for rehearing such that the Commission may consider the issues described above. The Commission should reconsider its Decision because, in its current form, the Decision (1) sets an unrealistically low GHG emissions standard, (2) eliminates cost containment measures to protect ratepayers, (3) increases California's already high dependence on natural gas to supply its power needs, (4) prohibits a large portion of California's existing out-of-state power suppliers from competing in baseload California power markets, and (5) eliminates or creates disincentives for continued development of cleaner coal-fueled electric generation. In doing so, the proposal contained in the Decision violates the Commerce Clause of the U.S. Constitution, and conflicts with federal policy regarding climate change.

Dated: February 23, 2007

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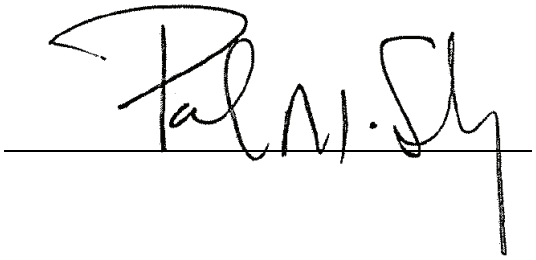
CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing **THE CENTER FOR ENERGY AND ECONOMIC DEVELOPMENT'S APPLICATION FOR REHEARING OF DECISION 07-01-039, INTERIM OPINION ON PHASE 1 ISSUES: GREENHOUSE GAS EMISSIONS PERFORMANCE STANDARD** in accordance with the requirements of the Commission Rules of Practice and Procedure by causing a copy to be electronically filed with the CPUC Docket Office and by causing electronic service of same on all members of the current service list in this proceeding, R.06-04-009:

Dated: February 23, 2007



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